

ENGINEERING SERVICES CONTRACT

STATE OF TEXAS

COUNTY OF NUECES

THIS CONTRACT FOR ENGINEERING SERVICES is made by and between the County of Nueces, hereinafter called “County” and HALFF ASSOCIATES, INC. hereinafter called “Engineer” for the purpose of contracting for engineering services.

WITNESSETH

WHEREAS, Government Code, Chapter 2254, Subchapter A, “Professional Services Procurement Act” provides for the procurement of professional services of engineers; and

WHEREAS, the County desires to contract for engineering services described as follows: Drainage, flood risk analysis, and flood mitigation study for the areas in and around the Stonegate Subdivision and unincorporated areas of north-central Nueces County

NOW, THEREFORE, the County and the Engineer, in consideration of the mutual covenants and agreements herein contained, do hereby mutually agree as follows:

AGREEMENT

ARTICLE 1 SCOPE OF SERVICES TO BE PROVIDED BY COUNTY

The County will furnish items and perform those services for fulfillment of the contract as identified in **Attachment A** – *Services to Be Provided by the County*, attached hereto and made a part thereof this contract.

ARTICLE 2
SCOPE OF SERVICES TO BE PROVIDED BY ENGINEER

The Engineer shall perform those engineering services for the fulfillment of the contract as identified in **Attachment B – Services to Be Provided by the Engineer**, attached hereto and made a part thereof this contract.

The Engineer shall prepare a schedule of work, identified as **Attachment C – Work Schedule**, attached hereto and made a part thereof this contract. The work schedule shall contain a complete schedule by task such that the Engineer’s Scope of Services under this contract can be accomplished within the specified time and contract cost. **Attachment C – Work Schedule**, shall identify the task, the total maximum dollar amount payable for each task, and the estimated schedule to complete the Services for the job by date or working days. **Attachment D – Fee Schedule**, shall identify the hourly rates for each job title to be applied to the maximum dollar amount payable for each job title (task).

Unless specifically excluded in **Attachment B – Services to Be Provided by the Engineer**, it shall be the Engineer’s responsibility to prepare, submit, or arrange for any and all permits, approvals, or inspections required for the work. The permits, approvals or inspections shall include, but not be limited to, the following:

1. Building permits
2. Floodplain development permits
3. Dune protection permits
4. Access driveway permits
5. Utility permits
6. Americans with disabilities submissions and approvals
7. Asbestos inspections

ARTICLE 3
STANDARD OF CARE

The Engineer shall perform the services contemplated hereunder:

1. With the professional skill and care ordinarily provided by competent engineers practicing in the same or similar locality and under the same or similar circumstances and professional license; and
2. As expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

**ARTICLE 4
CONTRACT PERIOD**

After execution of this contract, the Engineer shall not proceed with the work until authorized in writing by the County to proceed, as provided in Article 6 – Work Authorizations. This contract shall terminate at the close of business on **January 31, 2022**, unless extended by supplement agreement duly executed by the Engineer and the County prior to the date of termination, as provided in Article 11 – Supplemental Agreements, or otherwise terminated, as provided in Article 20 – Termination. Any work performed or cost incurred after the date of termination shall be ineligible for reimbursement.

**ARTICLE 5
COMPENSATION AND METHOD OF PAYMENT**

The maximum amount payable under this contract is **\$155,000.00** unless modified as provided in Article 11 – Supplemental Agreements.

All payments will be made in accordance with the hourly rates for each job title established in **Attachment D – Fee Schedule**.

The Engineer shall prepare and submit to the County, no more frequently than once per month, an invoice and a progress report stating the percent completion of the work accomplished during the billing period. The invoice and progress report shall contain sufficient detail such that the billing can be reviewed for compliance with both the work schedule and fee schedule.

The County reserves the right to withhold payment pending verification of satisfactory work.

The County assumes no liability for work performed or costs incurred prior to the date authorized by the County to begin work, during periods when work is suspended, or subsequent to the contract completion date, unless extended by supplement agreement duly executed by the Engineer and the County prior to the subsequent work.

**ARTICLE 6
WORK AUTHORIZATIONS**

The County will issue work authorizations, in the form identified and attached hereto as **Attachment E – Work Authorization**, to authorize the Engineer to perform one or more additional tasks. The amount payable for a work authorization shall be supported by the estimated cost of each work task as described in the work authorization. The work authorization will not waive the County’s or Engineer’s responsibilities and obligations established in this contract. The work authorization will be issued by the Nueces County

Director of Public Works. The executed work authorization(s) shall become a part of this contract.

Upon satisfactory completion of the work authorization, the Engineer shall submit to the County for review and acceptance the deliverables as specified in the executed work authorization.

Work included in a work authorization shall not begin until the County and the Engineer have signed the work authorization. All work must be completed on or before the completion date specified in the work authorization. The Engineer shall promptly notify the County of any event which will affect completion of the work authorization.

ARTICLE 7 PROGRESS

The Engineer shall, from time to time during the progress of the work, confer with the County. The Engineer shall prepare and present such information as may be pertinent and necessary, or as may be requested by the County, in order to evaluate features of the work. Upon request by the County, the Engineer shall make presentations to the Commissioners Court.

At the request of the County or the Engineer, conferences shall be held at the Engineer's office, the County's office, or at other locations designated by the County. These conferences shall also include an evaluation of the Engineer's services and work when reasonably requested by the County.

Should the County determine that the progress in production of the work does not reasonably satisfy the work schedule, the County will review the work schedule with the Engineer to determine corrective action needed.

The Engineer shall promptly advise the County in writing of events which have a significant impact upon the progress of work, including:

- (1) problems, delays, or adverse conditions which will materially affect the ability to attain contract objectives, prevent the meeting of time schedules and goals, or preclude the attainment of project work units by established time periods; this disclosure will be accompanied by a statement of the action taken, or contemplated, and any County assistance needed to resolve the situation; and
- (2) favorable developments or events which would enable meeting the work schedule goals sooner than anticipated.

ARTICLE 8 SUSPENSION

The County may suspend the work, but not terminate the contract, by giving written notice a minimum of thirty (30) calendar days prior to the date of suspension. The thirty (30) day notice may be waived if approved in writing by both parties.

The work will be reinstated and resumed in full force and effect within sixty (60) calendar days of receipt of written notice from the County to resume the work. The sixty (60) day notice may be waived if approved in writing by both parties.

If the County suspends the work, the contract period, as determined in Article 4 – Contract Period, is not affected and the contract will terminate on the date specified unless the contract is amended as provided in Article 11 – Supplemental Agreements.

ARTICLE 9 ADDITIONAL WORK

If the Engineer determines that any work it has been directed to perform is beyond the scope of this agreement and constitutes extra work, it shall promptly notify the County in writing. In the event the County determines that such work constitutes extra work and exceeds the maximum amount payable, the County shall so advise the Engineer and a supplemental agreement may be executed, as provided in Article 11 – Supplemental Agreements.

The Engineer shall not perform any additional work or incur any additional costs prior to the execution, by both parties, of a supplemental agreement. The County shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with the performance of the work authorized in this contract or as amended.

ARTICLE 10 CHANGES IN WORK

If the County finds it necessary to request changes to previously satisfactorily completed work or parts thereof which involve changes to the original scope of services or character of work under the contract, the Engineer shall make such revisions if requested and as directed by the County. This will be considered additional work and paid for as specified under Article 9 – Additional Work.

The Engineer shall make such revisions to the work to correct errors appearing therein, when required to do so by the County. No additional compensation will be paid for the correction of errors.

ARTICLE 11
SUPPLEMENTAL AGREEMENTS

The terms of this contract may be modified by supplemental agreement if the County determines that there has been a significant change in the scope, complexity, or character of the service to be performed, or the duration of the work. Additional compensation, if appropriate, shall be identified as provided in Article 5 – Compensation and Method of Payment.

Any supplement agreement must be executed by both parties within the contract period specified in Article 4 – Contract Period.

No claim for extra work done or materials furnished shall be made by the Engineer until full execution of the supplemental agreement and authorization to proceed is issued by the County. The County reserves the right to withhold payment pending verification of satisfactory work performed.

ARTICLE 12
PUBLIC INFORMATION ACT

All data, basic sketches, charts, calculations, plans, specifications, and other documents created or collected under the terms of this contract are the exclusive property of the County and shall be furnished to the County upon request. All final documents prepared by the Engineer and all documents furnished to the Engineer by the County shall be delivered to the County upon completion or termination of this contract. The Engineer, at its own expense, may retain copies of such documents or any other data which it has furnished the County under this contract. Release of information will be in accordance with the Texas Public Information Act. Engineer shall have no liability for any use of the aforementioned documents other than for the project originally intended.

ARTICLE 13
PERSONNEL, EQUIPMENT AND MATERIAL

The Engineer shall furnish and maintain, at its own expense, office space for the performance of all services, and adequate and sufficient personnel and equipment to perform the services as required. All employees of the Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them.

The County may instruct the Engineer to remove any employee from association with the work authorized in this contract if, in the sole opinion of the County, the work of the employee does not comply with the terms of this contract or if the conduct of the employee is detrimental to the work.

The Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the services required under this contract. The Engineer may not change the project manager without prior consent of the County.

**ARTICLE 14
SUBCONTRACTING**

The Engineer shall not assign, subcontract or transfer any portion of the work under this contract without prior written approval of the County. All subcontracts shall include the provisions required in this contract and shall be approved as to form, in writing, by the County prior to work being performed under the subcontract.

**ARTICLE 15
EVALUATION OF WORK**

The County and its authorized representatives shall have the right at all reasonable times to review or otherwise evaluate the work performed or being performed hereunder and the premises in which it is being performed. If a review or evaluation is being made on the premises of the Engineer or a subcontractor, the Engineer shall provide and require its subcontractor to provide all reasonable facilities and assistance for the safety and convenience of the County representatives in the performance of their duties. If funds by other agencies or entities are to be used for payment of the services under this contract or for any construction project as a consequence of this contract, the Engineer's services and work may be subject to periodic review and approval by other agencies or entities, including city, county, state, and/or federal agencies.

**ARTICLE 16
SUBMISSION OF REPORTS**

All applicable study reports shall be submitted in preliminary form for review by the County before a final report is issued. The County's comments on the Engineer's preliminary report shall be addressed in the final report.

**ARTICLE 17
SUBMISSION OF PLANS AND SPECIFICATIONS**

Unless otherwise directed, preliminary plans and any supporting documentation submitted for review shall be in triplicate.

The submission of plans and specifications for letting shall consist of two, original paper copies of all documents, along with a compact disc (CD).

Plan Sheet size shall be 24" X 36", unless otherwise directed.

ARTICLE 18
COMPUTER DOCUMENTS AND INFORMATION EXCHANGE

All computer files must be compatible with the County's computer systems without conversion or modifications and must plot consistent with any reproducible plots submitted.

All plots and graphics media provided by the Engineer shall be delivered to the County. Final payment for the work associated with this contract will not be made until the files furnished by the Engineer have been demonstrated to be usable in the required formats.

ARTICLE 19
VIOLATION OF CONTRACT TERMS / BREACH OF CONTRACT

Violation of the contract terms or material breach of contract by the Engineer shall be grounds for termination of the contract and any increased cost arising from the Engineer's default, material breach of contract, or violation of contract terms shall be paid by the Engineer. This agreement shall not be considered as specifying the exclusive remedy for such default, but all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

ARTICLE 20
TERMINATION

This contract shall terminate at the close of business on **January 31, 2022**, unless extended as provided in Article 11 – Supplemental Agreements.

This contract may be terminated before the stated termination date by any of the following conditions:

1. By mutual agreement and consent, in writing, of both parties;
2. By the County, by notice in writing to the Engineer as a consequence of failure by the Engineer to perform the services set forth herein;
3. By either party, upon the failure of the other party to fulfill its obligations as set forth herein;
4. By the County, for reasons of its own and not subject to the mutual consent of the Engineer upon not less than thirty (30) calendar days written notice to the Engineer; and
5. By written notice from the County upon satisfactory completion of all services and obligations described herein.

Should the County terminate this contract as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to the Engineer. In determining the value of the work performed by the Engineer prior to termination the County shall be the sole judge. Compensation for work at termination will be based on a percentage of the work completed at that time. Should the County terminate this contract under Item 4 of the above paragraph, the amount charged during the thirty (30) calendar day notice period shall not exceed the amount charged during the preceding thirty (30) calendar days.

If the Engineer defaults in the performance of this contract or if the County terminates this contract for fault on the part of the Engineer, the County will give consideration to the actual costs incurred by the Engineer in performing the work to the date of default, the amount of work which was satisfactorily completed to the date of default, the value of the work which is usable to the County, the cost to the County of employing another firm to complete the work required and the time required to do so, and other factors which affect the value to the County of the work performed at the time of default.

The termination of this contract and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of the County and the Engineer under this contract except the obligations set forth in Articles 12, 15, 20, 21, 22 ,23 and 24 of this contract. If the termination of this contract is due to the failure of the Engineer to fulfill its contract obligations, the County may take over the project and prosecute the work to completion. In such case, the Engineer shall be liable to the County for any additional cost occasioned to the County.

ARTICLE 21 COMPLIANCE WITH LAWS

The Engineer shall comply with applicable Federal, State, and local laws, statutes codes, ordinances, and regulations, and the executive orders and decrees of applicable court, or administrative bodies or tribunals, in any manner affecting the performance of this contract, including, without limitation, worker's compensation laws, minimum salary and wage statues and regulations, and licensing laws and regulations. When required, the Engineer shall furnish the County with satisfactory proof of its compliance.

ARTICLE 22 INDEMNIFICATION, HOLD HARMLESS, AND DEFEND

THE ENGINEER SHALL INDEMNIFY, HOLD HARMLESS, AND DEFEND, EXCEPT FOR PROFESSIONAL LIABILITY CLAIMS, THE COUNTY, ITS OFFICERS, AND EMPLOYEES AGAINST CLAIMS AND LIABILITY FOR DAMAGES TO THE EXTENT THAT THE CLAIM OR LIABILITY FOR DAMAGES IS BASED WHOLLY ON THE NEGLIGENCE OF ENGINEER, THE ENGINEER'S AGENT, CONSULTANT UNDER CONTRACT, OR OTHER ENTITY OVER WHICH ENGINEER EXERCISES CONTROL.

THE ENGINEER SHALL INDEMNIFY, AND HOLD HARMLESS THE COUNTY, ITS OFFICERS, AND EMPLOYEES, AGAINST CLAIMS AND LIABILITY FOR DAMAGES TO THE EXTENT THAT THE CLAIM OR LIABILITY FOR DAMAGES IS BASED ON THE NEGLIGENCE, INTENTIONAL TORT, INTELLECTUAL PROPERTY INFRINGEMENT, OR FAILURE TO PAY A SUBCONTRACTOR OR SUPPLIER COMMITTED BY THE ENGINEER OR THE ENGINEER'S AGENT, CONSULTANT UNDER CONTRACT, OR ANOTHER ENTITY OVER WHICH THE ENGINEER EXERCISES CONTROL.

**ARTICLE 23
REIMBURSEMENT**

THE ENGINEER SHALL REIMBURSE THE COUNTY, IN PROPORTION TO THE ENGINEER'S LIABILITY, FOR SETTLEMENTS OR REASONABLE ATTORNEY'S FEES PAID BY THE COUNTY IN CONNECTION TO A CLAIM BASED IN PART ON THE NEGLIGENCE OF THE ENGINEER.

**ARTICLE 24
ENGINEER'S RESPONSIBILITY**

The Engineer shall be responsible for the accuracy of its work and shall promptly make necessary revisions or corrections resulting from its errors, omissions, or negligent acts without compensation. The Engineer will not be relieved of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities until after the construction phase of the project has been completed.

**ARTICLE 25
ENGINEER'S SEAL**

The responsible Engineer shall sign, seal, and date all appropriate engineering submissions to the County in accordance with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

**ARTICLE 26
RETENTION, AVAILABILITY OF RECORDS AND AUDIT REQUIREMENTS**

The Engineer shall maintain all books, documents, papers, accounting records, and other evidence pertaining to cost incurred and shall make such materials available at its office during the contract period and for four (4) years from the date of final payment under this contract or until pending litigation has been completely and fully resolved, whichever occurs last. The County or any of its duly authorized representatives shall have access during normal business hours to any and all books, documents, papers, and records of the

Engineer which are directly pertinent to this contract for the purpose of making audits, examinations, excerpts, transcriptions, and for checking the amount of work performed by the Engineer.

ARTICLE 27 INSURANCE

The Engineer shall obtain and maintain insurance in the limits of liability for each of the types of insurance coverage identified as follows:

1. Workers' Compensation endorsed with a waiver of subrogation in favor of Nueces County in the amount of the statutory obligations imposed under the Texas Workers' Compensation Law ("Statutory Texas").
2. Commercial General Liability, endorsed with the County as an additional insured and endorsed with a waiver of subrogation in favor of Nueces County, in limits of liability not less than one million dollars (\$1,000,000) combined single limit each occurrence and in the aggregate for bodily injury and property damage.
3. Texas Business Automobile Policy, endorsed with the County as an additional insured and endorsed with a waiver of subrogation in favor of Nueces County, in limits of liability not less than two hundred fifty thousand dollars (\$250,000) each person for bodily injury, five hundred thousand dollars (\$500,000) each occurrence for bodily injury, and one hundred thousand dollars (\$100,000) each occurrence for property damage.
4. Professional Liability in limits of one million dollars (\$1,000,000) per claim and in the aggregate.

The work shall not be commenced by Engineer until after policy, or policies evidencing the insurance coverage herein required, or certificates of such insurance, providing that the insurer shall give County thirty (30) days written notice prior to cancellation, material revision or intention not to renew, have been submitted to the County. In the event the Insurer refuses to provide the County with notice as detailed, the Engineer agrees to provide notice in writing immediately, and shall suspend all work until insurance is restored and proof, in a form acceptable to the County, is provided.

The Engineer, at his/her expense, shall purchase and maintain in force at all times during the term of this Contract the insurance with limits not less than indicated above. The Engineer will be considered in breach of contract should the Engineer fail to maintain the required insurance coverage during the contract period of this contract. The termination of this contract resulting from failure to maintain the required insurance will be carried out in accordance with Article 18-Termination.

ARTICLE 28

SUCCESSORS AND ASSIGNS

The Engineer and the County do hereby bind themselves, their successors, executors, administrators, and assigns to each other party of this agreement and to the successors, executors, administrators, and assigns of such other party in respect to all covenants of this contract.

The Engineer shall not assign, subcontract, or transfer its interest in this contract without the prior written consent of the County.

ARTICLE 29 SEVERABILITY

In the event any one or more of the provisions contained in this contract, for any reason, shall be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and; this contract shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

ARTICLE 30 CONTRIBUTIONS

It is expressly understood by the County and the Engineer, that from the award date of the contract to one year after termination or expiration of contract term, it is prohibited for any county official or employee thereof, to receive gifts described by Section 5.02 of the County Personnel or Civil Service Rules, and/or campaign or political contributions regardless of amount from the Engineer or principal owners of said Engineering firm. County Official is defined as those individuals described as county and precinct officers in Subchapter B of Chapter 152 of the Local Government Code. The Engineer is furthermore prohibited from making political campaign or personal contributions to candidates for county and precinct office from the date of award of contract to one year after termination or expiration of contract term. It is also prohibited for the Engineer to contribute to employee associations or for the benefit of groups of employees.

ARTICLE 31

NOTICES

All notices to either party by the other, required under this contract, shall be personally delivered or mailed to such party at the following respective address:

COUNTY

ENGINEER

Nueces County Judge

Halff Associates, Inc.

901 Leopard, Rm. 303
1190

711 N. Carancahua Street, Suite

Corpus Christi, Texas 78401

Corpus Christi, TX 78401-0599

**ARTICLE 32
SIGNATORY WARRANTY**

The undersigned signatory for the Engineer hereby represents and warrants that the signatory is an officer of the organization for which he or she has executed this contract on behalf of the firm.

IN WITNESS WHEREOF, the County and the Engineer have executed these presents in duplicate.

COUNTY OF NUECES

ENGINEER: Halff Associates, Inc.

By: _____
Barbara Canales

By: Christopher D. Caron
Christopher Caron

Title: County Judge

Title: Vice President

Date: _____

Date: June 17, 2021

ATTEST:

County Clerk

List of Attachments

- Attachment A – Services To Be Provided By The County
- Attachment B – Services To Be Provided By The Engineer
- Attachment C – Work Schedule
- Attachment D – Rate Schedule
- Attachment E – Work Authorization

SERVICES TO BE PROVIDED BY THE COUNTY

1. Provide access to project site(s) associated with this project (i.e previous studies, subdivision improvements, future subdivision or improvements, TxDOT roadway and drainage plans existing and proposed, Irrigation drawings, Tax Office property Map in CADD format.
2. Provide existing record drawings, reports, maps and other relevant information (if applicable).
3. Provide Geotechnical Reports and information (if applicable).
4. Provide County's standard specification, details and title blocks.

SERVICES TO BE PROVIDED BY THE ENGINEER

Scope of Work – Stonegate Area Drainage and Flood Mitigation Study

Introduction:

Half Associates, Inc., if approved, will initiate the development of a 2-Dimensional stormwater runoff model of the approximately 8.3 square-mile area in northern Nueces County just west of Corpus Christi which includes (among others) the recently developed subdivision of Stonegate. The project area is generally bounded by US 77 on the east, Northwest Blvd on the north, CR 73 on the west, and CR 44 on the south (see project extent map below).

The Stonegate subdivision, while relatively new, has already experienced some drainage issues and appears to have flood risk if the agricultural area surrounding it is further developed without adequate flood mitigation. There appears to be some drainage ditches in the area, as well as a drainage path that cuts diagonally NW to SE across the area, but it is unlikely that the ditches have appropriate capacity to account for increased development. As such, Nueces County would like to analyze the runoff coming to and within the project area in order to appropriately plan drainage infrastructure and detention areas.

Since traditional hydrologic and hydraulic models do not capture the dynamic nature of overland flows, a 2D analysis is recommended to identify the areas of risk and propose mitigation projects to reduce that risk. Half proposes utilizing the InfoWorks ICM 2D modeling platform to model the existing drainage conditions and develop recommendations for drainage improvements as the area develops. The following scope of work is provided to accomplish this task.

Objectives:

1. Identify areas at risk of flooding.
2. Evaluate conceptual mitigation solutions to reduce flooding impacts.
3. Assess grant eligibility and project constraints.

Scope of Work:

Task 1: Project Management

- Two meetings with Nueces County staff to present progress and discuss the results of the 2D analysis. First meeting will present the results of the existing conditions analysis, the second meeting to discuss proposed solutions.
- Meeting with TxDOT to acquire data and/or discussed proposed mitigation solutions that may require coordination with a TxDOT project.
- Attendance/presentation at Commissioner Court or other public meeting to answer questions regarding 2D analysis results.
- Progress reporting and invoicing for project.

Task 2: Data Collection

- Perform field reconnaissance of the neighborhoods documenting existing conditions, n-values, approximate culvert dimensions, etc.
- Obtain the latest available Nueces County LiDAR and process a digital elevation model for this analysis. The LiDAR data will be analyzed for inconsistencies that may decrease the accuracy of the 2D model and corrected as necessary.
- Halff will research and acquire the latest available FEMA effective hydrologic and/or hydraulic models for the project area and/or the hydrologic models associated with the draft floodplain limits for large-basin hydrologic parameters.
- Coordinate and collect data from TxDOT for proposed improvements to FM 1889 or other facilities within the project area.

Task 3: Survey and Environmental Assessment

- Limited field surveys will be conducted to validate LiDAR topography, confirm finished floor elevations, and locate critical constraints impacting proposed solutions. Survey effort shall not exceed 32 hours of field work and will be defined during the study effort based on specific survey needs necessary to develop specific mitigation solutions.
- A desktop environmental assessment to identify potential environmental impacts and permitting requirements impacting proposed solutions. Environmental effort shall not exceed 8 hours of desktop work and will be defined during the study effort based on specific environmental needs necessary to advance specific mitigation solutions

Task 4: Hydrology

- If FEMA hydrologic basins are available, Halff will subdivide basins, as appropriate, to compute localized flow rates for the much smaller area. For subdivided basins, compute hydrologic parameters consistent with the County criteria, FEMA methodology, and best engineering practices.
- Using the updated hydrologic model, compute Existing Condition inflow hydrographs for the 2D analysis. A full range of frequencies shall be analyzed for this analysis including the 10%, 4%, 2%, 1%-, and 0.2% annual chance events.

Task 5: 2D Model Development

- Develop InfoWorks ICM 1D/2D model for the project area (see project area map below).
- Incorporate any available FEMA or County-provided 1D hydraulic model data including cross-section, structure, and n-value data into the 2D model as appropriate.
- The land use (n-values) layer from the 2013 Onion Creek study will be utilized for the 2D analysis and updated where necessary to reflect land use types and n-values appropriate for 2D modeling. A building footprint (inactive areas) layer will be created using the most recent aerial photography data and 2017 LiDAR data.
- Final models will undergo a thorough quality control review to ensure accurate results.

Task 6: Mitigation Analysis

- Identify areas of risk including water surface elevations for the various simulated frequency events.
- Meet with the County to present existing conditions flood inundation maps to validate and discuss viable flood mitigation alternatives.

- Conceptual evaluation of up to five (5) potential mitigation options to reduce flooding impacts in the project area.
- Meet with the County to discuss final flood mitigation alternatives.
- Identify a recommended mitigation project to reduce structural flooding for the Stonegate Subdivision as well as other high-risk areas within the project boundary.
- Prepare engineers estimates of probable cost for the conceptual flood mitigation projects.
- Perform a FEMA compliant benefit cost analysis for the agreed upon conceptual flood mitigation projects.

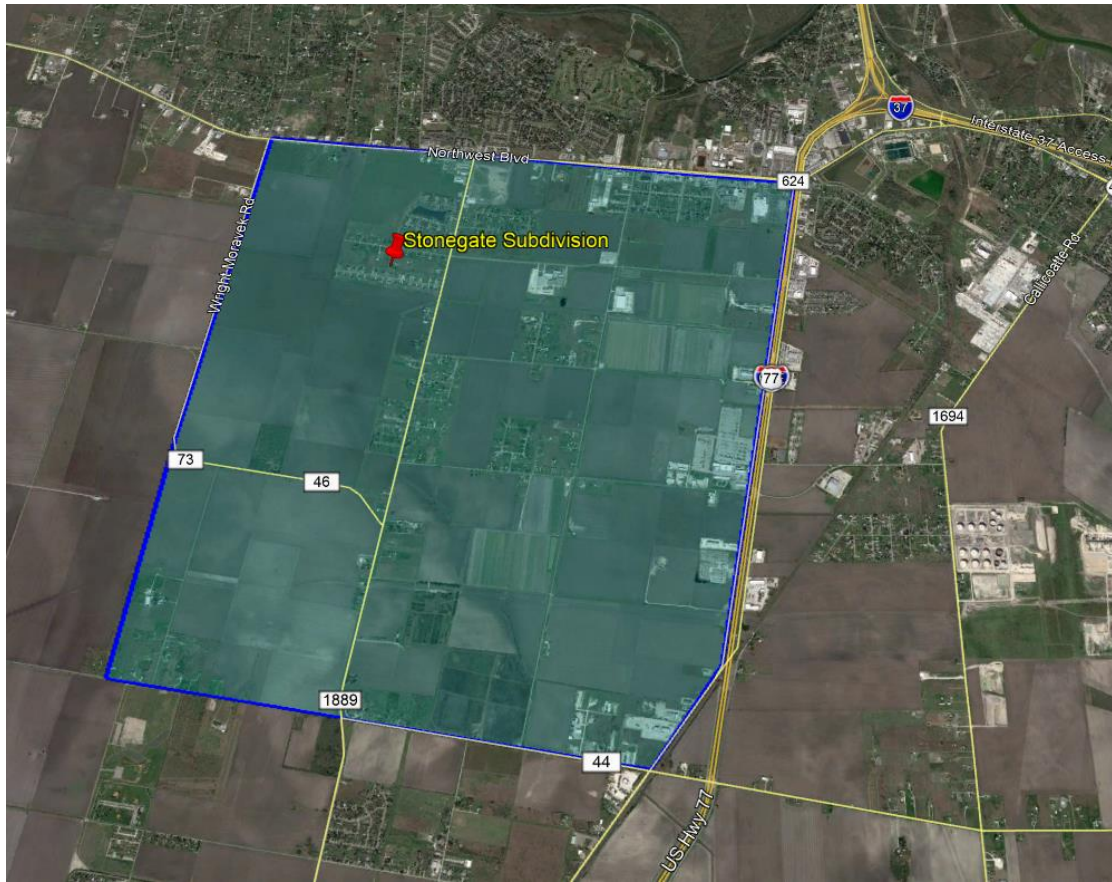
Deliverables:

1. Technical memorandum documenting the development of the 2D model, model parameters, mitigation analysis, and summary of the results/recommendations.
2. Floodplain, water surface elevation depth grids and maps for the pre- and post-project condition flood frequency intervals.
3. GIS Database of collected info and deliverables.

Exclusions:

4. Detailed design and/or construction documents. Project alternatives developed will be conceptual in nature and will need further design for implementation.
5. FEMA Letters of Map Change (LOMCs). Floodplain boundaries and flood risk analysis will be for County planning use.
6. Public Outreach or other stakeholder coordination other than that which is listed above.
7. Building permits
8. Floodplain development permits
9. Dune protection permits
10. Access driveway permits
11. Utility permits
12. Americans with disabilities submissions and approvals
13. Asbestos inspections

Project Area:



TASK / FEE BREAKDOWN & WORK SCHEDULE

TASK NAME	MAXIMUM AMOUNT PAYABLE	DURATION (days)	START	FINISH
NOTICE TO PROCEED		1	15-Jul-21	
Task 1: Project Management	\$15,000	194	15-Jul-21	24-Jan-21
Task 2: Data Collection	\$8,000	43	16-Jul-21	27-Aug-21
Task 3: Survey and Environmental	\$12,000	26	2-Aug-21	27-Aug-21
Task 4: Hydrology	\$30,000	43	16-Jul-21	27-Aug-21
Task 5: 2D Model Development	\$30,000	47	30-Aug-21	15-Oct-21
Task 6: Mitigation Analysis	\$60,000	99	18-Oct-21	24-Jan-22

Total = \$155,000.00

RATE SCHEDULE

Labor Category	Level	Billing Rate Range	
		Low	High
Engineer	I	78.00	115.00
	II	115.00	146.00
	III	148.00	207.00
	IV	194.00	243.00
	V	248.00	350.00
Scientist	I	69.00	94.00
	II	99.00	129.00
	III	131.00	170.00
	IV	183.00	208.00
	V	230.00	350.00
Landscape/ Planner	I	78.00	88.00
	II	90.00	123.00
	III	124.00	147.00
	IV	162.00	203.00
	V	211.00	350.00
Surveyor	I	103.00	104.00
	II	120.00	121.00
	III	126.00	135.00
	IV	149.00	191.00
	V	196.00	277.00
Field Tech	I	53.00	73.00
	II	72.00	88.00
	III	91.00	109.00
	IV	119.00	141.00
	V	174.00	175.00
Office Tech	I	43.00	69.00
	II	70.00	87.00
	III	87.00	114.00
	IV	114.00	136.00
	V	150.00	286.00
Administrative	I	31.00	76.00
	II	70.00	88.00
	III	87.00	114.00
	IV	116.00	146.00
	V	151.00	332.00
Intern		51.00	69.00

Unit Number	Unit Name	Billing Rate
LU01-1	Designating (QL-B) (1-Man)	105 <i>per hour</i>
LU01-2	Designating (QL-B) (2-Man)	190 <i>per hour</i>
LU03-2	Spar Designating (QL-B) (2-Man)	250 <i>per hour</i>
LU02-2	Potholing (QL-A) (2-Man)	290 <i>per hour</i>
LS01-1	1-Man Survey Crew	120 <i>per hour</i>
LS01-2	2-Man Survey Crew	175 <i>per hour</i>
LS01-3	3-Man Survey Crew	235 <i>per hour</i>
ES05-I	3D Terrestrial HDS	750 <i>per day</i>
ES10-I	UAS Photogrammetry	500 <i>per day</i>
ES11-I	UAS LIDAR	4,000 <i>per day</i>
ES20-I	MX9 Mobile LIDAR	7,000 <i>per day</i>
XA01	Basemap Services	150 <i>per year</i>
Mileage will be billed at the current IRS Rate.		

WORK AUTHORIZATION

This work authorization is issued in accordance with the Engineering Services Contract, dated _____, between Nueces County and Halff Associates, Inc.

Work Task:

Hydrologic and Hydraulic Analysis of flood risk for the area in and surrounding the Stonegate subdivision (approximately 8 square miles in northern Nueces County) including the development of potential flood hazard mitigation and drainage improvement projects.

Primary Objectives Include:

1. Identify areas at risk of flooding.
2. Evaluate conceptual mitigation solutions to reduce flooding impacts.
3. Assess grant eligibility and project constraints.

Cost: \$155,000

Deliverables:

1. Technical memorandum documenting the development of the 2D model, model parameters, mitigation analysis, and summary of the results/recommendations.
2. Floodplain, water surface elevation depth grids and maps for the pre- and post-project condition flood frequency intervals.
3. GIS Database of collected info and deliverables.

Completion Date: January 31, 2022

COUNTY OF NUECES

HALFF ASSOCIATES, INC.

By: _____
Barbara Canales

By: *Christopher D. Caron*
Christopher D. Caron, PE

Title: County Judge

Title: Vice President

Date: _____

Date: June 17, 2021

Attachment E